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Preliminary Thoughts on Future Policy Directions for the Management of Solid and Hazardous Waste

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PRELIMINARY THOUGHTS ON FUTURE POLICY DIRECTIONS FOR THE MANAGEMENT OF SOLID AND HAZARDOUS WASTE[1]

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I. INTRODUCTION

My charge at the April 1996 conference, *25th Anniversary of the New York State Department of Environmental Conservation: Past and Future Challenges and Directions,* which is the subject of this symposium issue, was to reflect upon developments concerning the management of solid and hazardous waste over the past twenty-five years and offer some thoughts on future directions with respect to these trends.[2] That the developments have been dramatic is captured by Professor Rodgers' pithy observations

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* Professor of Law, Albany Law School. This is an updated version of an earlier paper. See David L. Markell, *Solid and Hazardous Waste Management and Remediation: Prospects for the Future*, 2.3 ALB. L. ENVTL. OUTLOOK 52 (1996).

[1] I use the term "management" broadly to include generation, treatment and disposal of waste as well as efforts to reduce its creation. Traditionally, waste reduction has tended to get short shrift in discussions concerning management of waste. *See, e.g.*, 42 U.S.C. § 13101(a)(4) (1994) (finding a "historical lack of attention to source reduction"); ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE AND POLICY 201 (2d ed. 1996) (noting that "environmental regulations have focused almost exclusively on waste disposal practices, influencing waste reduction only indirectly"). There is some evidence that this has begun to change. In New York State, for example, the Legislative Commission on Solid Waste Management concluded in a 1995 report that one of the main challenges facing the State in the solid waste arena is reducing waste generation. *See* NEW YORK STATE ASSEMBLY, LEGISLATIVE COMMISSION ON SOLID WASTE MANAGEMENT, WHERE WILL THE GARBAGE GO? 1995, at 33 (1995). *See also id.* (introductory letter from Assemblymember Susan V. John). As is discussed in more detail, *e.g., infra* note 39, high ranking officials at the U.S. Environmental Protection Agency [hereinafter EPA] have highlighted the importance of focusing on pollution prevention on numerous occasions. Both federal and New York State law establish "hierarchies" for handling waste; source reduction is the most preferred option, while land disposal is least preferred. *See, e.g.*, Resource Conservation and Recovery Act, 42 U.S.C. § 6902(b) (1994); *see* Pollution Prevention Act, 42 U.S.C. § 13101(b) (1994); N.Y. ENVTL. CONSERV. LAW § 27-0105, (McKinney Supp. 1997); *id.* at § 27-0106(1).

[2] For an overview of the conference, *see* David L. Markell, Symposium Introduction, *The 25th Anniversary of the New York State Department of*

that the Resource Conservation and Recovery Act [hereinafter RCRA] has "undergone exponential change in content and character" during this timeframe and that "legal light years" separate the 1984 Amendments to RCRA from the version extant in 1976.[3]

In 1970, a year that many commentators have marked as the beginning of the modern environmental movement,[4] a "generator"[5] of solid waste or hazardous waste could decide what to do with its waste largely unfettered by federal environmental regulation.[6] A generator could dig a hole in the ground on its own prop-

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Environmental Conservation: Past and Future Challenges and Directions, 7.1 ALB. L.J. SCI. & TECH. 1 (1996).

Consistent with my role as a participant on the Conference panel covering solid and hazardous waste, and the focus of this conference on developments in New York, this article focuses primarily on waste issues and seeks to cover some of the more significant New York developments concerning these issues, though some of my observations and suggestions apply more generally.

RCRA defines "solid waste" as "discarded material, including solid, liquid, . . . [or] gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities . . ." *See* 42 U.S.C. § 6903(27) (1994). A "solid waste may also be a 'hazardous waste' under RCRA if it causes an increase in mortality or serious illness, or poses a hazard either to human health or to the environment when improperly managed." 1 SUSAN M. COOKE, THE LAW OF HAZARDOUS WASTE § 2.04, at 2-62 (1996) (citing 42 U.S.C. § 6903(5) (1994)).

[3] WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW 531-32 (2d ed. 1994). RCRA is the acronym for the Resource Conservation and Recovery Act which is codified at 42 U.S.C. §§ 6901-6992(k). RCRA is the primary law governing management of hazardous waste. *See infra* note 9 and corresponding text.

[4] Earth Day, which "has become the standard date to mark the beginning of the modern Environmental Era," occurred in April 1970. PERCIVAL, *supra* note 1, at 3. Other significant milestones in the development of our national environmental legal structure that occurred in 1970 include the signing of the National Environmental Policy Act into law on January 1, 1970, and adoption of the Clean Air Act Amendments. *See id.* at 106. In addition, President Nixon issued an Executive Order creating the Environmental Protection Agency in 1970. *See id.* at 109; *see also* National Environmental Policy Act of 1969, 83 Stat. 852 (1970) (codified at 42 U.S.C. § 4331 (1994)); Clean Air Act Amendments of 1970, 84 Stat. 2086 (1970) (codified as amended 42 U.S.C. § 7401 (1994)); Reorganization Plan No. 3 of 1970, 5 U.S.C. app. § 1 (1994) (codification of President Nixon's executive order located at 35 Fed. Reg. 15623 (1970)).

[5] The use of quotes in the text denotes that the word "generator" to some extent is a term of art. Parties that generate hazardous waste — "generators" in the vernacular — occupy a prominent role in the RCRA Subtitle C regulatory scheme and also are potentially involved in remediating facilities under RCRA. *See* 42 U.S.C. §§ 6922, 6973 (1994). They also, no doubt to their regret, are often significant participants in the CERCLA process. *See* 42 U.S.C. § 9607(a)(3). CERCLA is the acronym for the federal Superfund law, known as the Comprehensive Environmental Response, Compensation, and Liability Act, which is codified at 42 U.S.C. §§ 9601-9675.

[6] Congress enacted the Solid Waste Disposal Act in 1965. The limited New York State requirements in effect in 1970 are summarized in Norman H.

erty and place waste materials in it or send the materials off-site to a municipal dump or another location. The nation's environmental statutory infrastructure, regulating both the handling of such waste on a prospective basis,[7] and establishing liability for insults caused by its disposal,[8] was not yet in place.

Today, of course, the legal landscape is much different. Hazardous waste in particular is subject to a comprehensive "cradle-to-grave" management scheme under RCRA Subtitle C.[9] The level of regulatory attention given to solid waste management, likewise, has increased significantly over the past twenty-five years. Here states have played the primary role,[10] with Congress and the federal EPA having made their presence felt in relatively limited ways compared to their pervasive role in managing hazardous

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Nosenchuck, *Key Events of the New York State Solid Waste Management Program: 1970-1995*, 2.3 ALB. L. ENVTL. OUTLOOK, Spring 1996, at 35. Common law principles such as nuisance, of course, created possible legal exposure in appropriate instances.

[7] *See generally* RCRA Subtitle C, 42 U.S.C. §§ 6921-6939e (1994), and Subtitle D, §§ 6941 - 6949a (covering hazardous and solid waste, respectively).

[8] Today both RCRA and CERCLA create liability for releases of hazardous materials to the environment. The two statutes overlap considerably in their jurisdictional reach, although there are significant differences in their coverage and the scope of their legal authorities. *Compare, e.g.*, 42 U.S.C. § 6903(5) (1994) (RCRA's definition of "hazardous waste") and *id.* at § 9601(14) (CERCLA's definition of "hazardous substance"). *See generally id.* at §§ 6921-6939(e); *id.* at §§ 9604-9607.

[9] *See* 42 U.S.C. §§ 6921-6939(e) (1994). Subtitle C is shorthand for Subtitle III: Hazardous Waste Management of RCRA. The RCRA Subtitle C "cradle-to-grave" system regulates the generation, transportation, treatment, storage, and disposal of waste. *See also* CIBA-Geigy Corp. v. Sidamon-Eristoff, 3 F.3d 40, 42 (2d Cir. 1993); COOKE, *supra* note 2, § 1.01, at 1-4.

[10] *See* Philadelphia v. New Jersey, 437 U.S. 617, 621 n.4 (1978) (noting that in RCRA, Congress anticipated that state and local governments would occupy the primary regulatory role with respect to solid waste). *See also* William F. Pedersen, Jr., *The Future of Solid Waste Regulation*, 16 COLUM. J. ENVTL. L. 109, 110, 125 (1991) (noting that "[w]astes that are not hazardous are largely exempt from prospective federal regulation."); Michael C. Blumm, *A Primer on Environmental Law and Some Directions for the Future*, VA. ENVTL. L.J. 381, 391 (1992) (stating that "the federal effort has focused almost exclusively on the regulation of hazardous waste, thus leaving nonhazardous waste control and recycling to the states"). *See, e.g.*, N.Y. ENVTL. CONSERV. LAW §§ 27-0301-0305 (McKinney 1984 & Supp. 1997) (solid waste transporter permits); *id.* at §§ 27-0701-0711 (solid waste management and resource recovery facilities); N.Y. COMP. CODES R. & REGS. tit. 6, § 360 (1995) (solid waste management facilities). Among other things, New York law imposes a permit requirement on owners and operators of landfills. *See id.* at § 360-1.7-1.11. Obviously, requirements vary significantly by state.

waste.[11] The enactment in 1980 of CERCLA, the federal Superfund law covering the remediation of contaminated waste sites, has had enormous impacts on environmental law. Its reach, in fact, has extended well beyond the purely environmental arena, having, in Professor Rodgers's words, "thoroughly revolutionized commercial property management and exchange in the United States."[12]

In short, enormous changes have occurred in the regulation of solid and hazardous waste over the past twenty-five years. As a 1995 report by the State University of New York's Rockefeller Institute on the State Department of Environmental Conservation [hereinafter DEC] observed, "[w]hen the Department was created in 1970, waste management was not even mentioned as a function in the DEC's regional organization study. . . . Over the last 25 years, the DEC's solid and hazardous waste mission has grown and changed dramatically."[13]

Transformations of the regulatory scheme in this arena (and, inevitably, with respect to environmental law generally) are likely to be equally dramatic over the next quarter-century. The notion that our environmental regulatory scheme is off track has gained numerous adherents in recent years.[14] Numerous "new para-

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[11] Federal law, *inter alia*, establishes minimum standards for the repositories of such waste, requiring, for example, that landfills accepting solid waste implement a program for detecting and preventing the disposal of hazardous waste, *see* 40 C.F.R. § 258.20 (1996); cover disposed solid waste at the end of each day, *see id.* at § 258.21; and control public access to prevent illegal dumping, *see id.* at § 258.25.

[12] William H. Rodgers, Jr., *The Seven Statutory Wonders of U.S. Environmental Law: Origins and Morphology*, 27 LOY. L.A. L. REV. 1009, 1012 (1994). Professor Rodgers characterizes CERCLA's liability scheme as one of the "seven statutory wonders" of United States environmental law. *Id.* *See* Michael C. Blumm, *supra* note 10, at 396 (noting that CERCLA has "effectively revolutionized hazardous waste management").

Accompanying the enactment of the federal Superfund law has been the enactment of state Superfund laws in virtually every state in the Union, including New York. *See* OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, U.S. ENVTL. PROTECTION AGENCY, AN ANALYSIS OF STATE SUPERFUND PROGRAMS: 50-STATE STUDY (1993). New York's law is contained in N.Y. ENVTL. CONSERV. LAW §§ 27-1301-1321 (McKinney 1984 & Supp. 1997).

[13] THE NELSON A. ROCKEFELLER INST. OF GOV'T, THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION: A 25TH ANNIVERSARY REVIEW 65 (1996) [hereinafter ROCKEFELLER REPORT].

[14] *See, e.g.*, President Bill Clinton & Vice President Al Gore, *Special Report: Reinventing Environmental Regulation*, INSIDE EPA & WKLY. REP., Mar. 16, 1995 [hereinafter Clinton & Gore] (setting forth "25 High Priority Actions that will substantially improve the existing regulatory system . . . ."); NAT'L ACADEMY OF PUB. ADMIN. REPORT TO CONGRESS, SETTING PRIORITIES, GETTING RESULTS: A

digms" have been proffered to address the less-than-ideal state of environmental law today.[15] Thus, there is much fertile ground for

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NEW DIRECTION FOR THE ENVIRONMENTAL PROTECTION AGENCY (1995) (offering several recommendations to Congress on how the EPA can better manage the nation's environmental problems); William F. Pedersen, Jr., *Can Site-Specific Pollution Control Plans Furnish an Alternative to the Current Regulatory System and a Bridge to the New One?*, 25 ENVTL. L. REP. 10486, 10488 (1995) (suggesting that since the 1994 election the "old [environmental regulatory] system has found almost no defenders, as politicians of all stripes have rushed to embrace or appear to embrace the need for change"); Daniel A. Farber, *Environmental Protection as a Learning Experience*, 27 LOY. L.A. L. REV. 791, 794 (1994) (stating that, "[d]espite . . . [several] accomplishments, the current regulatory system is far from perfect."); William F. Pedersen, *"Protecting the Environment" - What Does That Mean?*, *id.* at 969 (1994).

Some scholars have suggested that pathological behavior on the part of various actors accounts for at least part of the problem. Professor John Dwyer, for example, in a 1990 article, discusses the "pathology of symbolic legislation." *See* John P. Dwyer, *The Pathology of Symbolic Legislation*, 17 ECOLOGY L.Q. 233, 234 (1990) (suggesting that "[t]he enactment of symbolic legislation reflects a breakdown of the legislative policymaking machinery, a system that all too frequently addresses real social problems in an unrealistic fashion."). Professor Richard J. Lazarus has highlighted the distrust that permeates the relationship among legislative and administration officials, noting, in describing EPA's situation:

> What should seem to be unlikely combinations of institutional forces have in fact seriously frustrated from the outset the agency's development and implementation of federal environmental protection policy. . . . In short, a pathological cycle has emerged: agency distrust has begotten failure, breeding further distrust and further failure . . . . The upshot has been a pattern of agency crisis and controversy and, as described, a cycle of regulatory failure.

Richard Lazarus, *The Tragedy of Distrust in the Implementation of Federal Environmental Law*, 54 LAW & CONTEMP. PROBS. 311, 313-14 (1991).

Criticisms of our environmental regulatory scheme, and proposals to improve it, are by no means solely a 1990's phenomenon. *See e.g.*, Bruce A. Ackerman & Richard B. Stewart, Comment, *Reforming Environmental Law*, 37 STAN. L. REV. 1333 (1985).

[15] For a sampling of various "new paradigms" that would represent more or less significant shifts from traditional approaches to environmental regulation, *see* JAMES M. STROCK, ASSISTANT ADMINISTRATOR, U.S. ENVTL. PROTECTION AGENCY, MEMORANDUM TO DEPUTY REGIONAL ADMINISTRATORS, HEADQUARTERS COMPLIANCE OFFICE DIRECTORS, OFFICE OF ENFORCEMENT HEADQUARTERS MANAGERS AND REGIONAL COUNSELS 1 (1991) (stating that the E.P.A. has "set a new course . . . [which] call[s] for a more holistic, multi-media approach to enforcement"); J.B. Ruhl, *Biodiversity Conservation and the Ever-Expanding Web of Federal Laws Regulating Nonfederal Lands: Time for Something Completely Different?*, 66 U. COLO. L. REV. 555 (1995) (discussing the notion of ecosystem-based regulation; RICHARD DORFMAN & NANCY S. DORFMAN, ECONOMICS OF THE ENVIRONMENT (3d ed. 1993). In addition to new paradigms that represent a different substantive focus, Professor Farber suggests that we would "do better" in conceptualizing environmental issues, to shift from our traditional approach of "viewing policy making as a one-shot exercise, in which the goal is to adopt the optimum solution based on current information . . . to

speculating about the future of solid and hazardous waste management and remediation.

Volumes have been written about each of the four significant sub-topics of this Conference panel: a) solid waste management, b) solid waste remediation, c) hazardous waste management and d) hazardous waste remediation.[16] Indeed, each of these sub-topics encompasses a wide variety of important issues. The field of solid waste management, for example, includes issues such as flow control,[17] the definition of solid waste,[18] and the costs and benefits of the various strategies available to promote pollution prevention and other desired public policy outcomes.[19]

Given the breadth of the topic and the limits of the forum, I have confined my remarks to a discussion of four themes that at least potentially may influence the future shape and content of solid and hazardous waste management and remediation strategies: 1) the increasing role of pollution prevention, 2) expanding

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think of a continuous process of learning and experimentation." Farber, *supra* note 14, at 791.

[16] For example, Superfund, one branch of hazardous waste remediation (albeit a significant one), has spawned a number of multi-volume treatises as well as numerous books and articles. *See, e.g.*, THOMAS W. CHURCH & ROBERT T. NAKAMURA, CLEANING UP THE MESS: IMPLEMENTATION STRATEGIES IN SUPERFUND (1993); RICHARD L. REVESZ & RICHARD B. STEWART, ANALYZING SUPERFUND: ECONOMICS, SCIENCE AND LAW (1995); ALLAN J. TOPOL & REBECCA SNOW, SUPERFUND LAW AND PROCEDURE (1992); *see also* David L. Markell, *The Federal Superfund Program: Proposals For Strengthening the Federal/State Relationship*, 18 WM. & MARY J. ENVTL. L. 1 (1993); Frederick R. Anderson, *Negotiation and Informal Agency Action: The Case of Superfund*, 1985 DUKE L.J. 261 (1985); Craig N. Johnston, *Who Decides Who's Liable Under CERCLA?: EPA Slips a Bombshell into the CERCLA Reauthorization Process*, 24 ENVTL. L. 1045 (1994)

[17] *See* C & A Carbone v. Town of Clarkstown, 511 U.S. 383 (1994).

[18] *See* Clinton & Gore, *supra* note 14, at S-5 (specifically identifying the development of a "new 'common sense' definition of solid waste" as a priority); U.S. EPA, REENGINEERING RCRA FOR RECYCLING: DEFINITION OF SOLID WASTE TASK FORCE: REPORT AND RECOMMENDATIONS (1994) (issuing a 107-page document in which EPA sought to distinguish between waste and non-waste creating practices); Barry S. Neuman & Bill Schofield, *EPA's Proposed Comparable Fuels Exemption Under RCRA: Does It Spell Relief?*, 27 ENV'T REP. 1664 (1996) (noting that "[s]ince the [EPA] promulgated its revised definition of 'solid waste' under [RCRA] in 1985, the question of what constitutes a 'waste' [under RCRA] has bordered on the metaphysical.").

[19] David Markell, *Pollution Prevention*, 3 ENVIRONMENTAL LAW PRACTICE GUIDE: STATE AND FEDERAL LAW 18A (Michael B. Gerrard ed., 1995). The related issues of adequate capacity for disposal and other needs, and siting of necessary facilities, are among the many other issues relating to solid and hazardous waste that warrant close attention. *See, e.g.*, Michael B. Gerrard, *Fear and Loathing in the Siting of Hazardous and Radioactive Waste Facilities: A Comprehensive Approach to a Misperceived Crisis*, 68 TUL. L. REV. 1047 (1994).

efforts to prioritize among competing needs and to develop measures of performance, 3) "beyond environmentalism"-related issues, i.e., the giving of substantial weight to non-environmental, as well as environmental, issues in formulating environmental policies and the expanded array of approaches likely to be used to shape and implement environmental policy, and 4) the restructuring of the relationships among the federal, state, and local governments.

II. POLLUTION PREVENTION

Significant benefits in the form of pollution or source reduction opportunities await the proactive generator of waste that performs a comprehensive assessment of its processes in order to find such opportunities, rather than concentrating its attention solely on "end of the pipe" controls.[20] Many significant generators of solid and hazardous waste have begun to focus on pollution prevention opportunities. They have made considerable progress in reducing the volume and toxicity of the waste materials that they generate by redesigning basic processes, improving housekeeping, and through other, non-end of the pipe controls.[21] While there is disagreement as to whether sufficient priority is being given to pollution prevention as an environmental protection strategy, it is indisputable that there has been a heightened focus on pollution prevention in the 1990's as compared to the 1970's.

What accounts for the increased attention to pollution prevention? There is no single answer. Contributing factors no doubt include initiatives such as the Toxics Release Inventory (TRI) program required under the Emergency Planning and Community Right-To-Know Act (EPCRA).[22] Under the TRI program, companies in certain industries are required to submit an annual report to the government regarding their releases into the environment.[23] This information is available to the public as well.[24] The

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[20] See Markell, *supra* note 19 (discussing, *inter alia*, various definitions of the concept of pollution prevention and success stories in the pollution prevention arena). In the 1990 Pollution Prevention Act, Congress has defined source reduction to include "reduc[ing] the amount of any . . . pollutant . . . entering any waste stream or otherwise released into the environment." 42 U.S.C. § 13102(5)(A)(1) (1994). Source reduction does not include neutralizing or otherwise rendering a pollutant more or less benign through processes that are "not integral to and necessary for the production of [the] product." 42 U.S.C. § 13102(5)(B) (1994).

[21] *See* Markell, *supra* note 19, 18A.03[7][a], at 18A-52.

[22] 42 U.S.C. § 11023(h) (1994).

[23] *Id.* at § 11023(a).

[24] *Id.* at § 11023(h).

federal EPA and others have characterized the TRI program as a "powerful tool for preventing pollution."[25]

Other laws have promoted pollution prevention as well. The Federal Pollution Prevention Act[26] and the State of New York's Hazardous Waste Reduction Act[27] are two statutes that are likely to have played some role in encouraging efforts to reduce the generation of hazardous waste. The 1988 amendments to the state's solid waste law, which created a statewide goal of reducing the volume of solid waste generated in the state by 50 percent by the year 1997,[28] similarly may have provided an impetus for initiatives to reduce the generation of solid waste.[29]

While I am overstating the point somewhat, one noteworthy feature common to all of the statutory frameworks identified above is that they tend towards the "hortatory" side of the regulatory continuum. They tend not to track one conventional regulation paradigm, notably, fixing specific standards, followed by monitoring and enforcement in appropriate circumstances.[30] A wide variety

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[25] OFFICE OF POLLUTION PREVENTION AND TOXICS, U.S. ENVTL. PROTECTION AGENCY, 1992 TOXICS RELEASE INVENTORY PUBLIC DATA RELEASE xi (1994).

[26] 42 U.S.C. §§ 13101-109 (1994).

[27] N.Y. ENVTL. CONSERV. LAW §§ 27-0101-1701 (McKinney 1984 & Supp. 1997).

[28] *See* DIVISION OF SOLID WASTE, N.Y. STATE DEP'T OF ENVTL. CONSERV., NEW YORK STATE SOLID WASTE MANAGEMENT PLAN 1993/1994 UPDATE 7 (1994) (discussing the statewide goal which is a combination of 8-10% waste reduction and 40-42% reuse/recycling); *see generally* N.Y. ENVTL. CONSERV. LAW § 27-0106 (McKinney 1984 & Supp. 1997) (discussing the state's solid waste management plan and the need to reduce the generation of solid waste).

[29] *See* NEW YORK STATE ASSEMBLY, *supra* note 1, at 10.

[30] The "traditional" federal environmental laws (e.g., RCRA, *supra* note 3, the Clean Water Act, 33 U.S.C. § 1251-1387 (1994), and the Clean Air Act, 42 U.S.C.A. § 7401-7671(q) (West 1995 & Supp. 1997)) undoubtedly have created incentives to prevent pollution, although they generally have not mandated that regulated parties "source reduce" in particular ways or by specific amounts. For example, by, *inter alia*, increasing the cost of disposal of hazardous waste, the land disposal restrictions (LDR's) under RCRA have induced generators to reduce their creation of hazardous waste. The expense of installing and operating pollution control equipment under the various environmental statutes likely has had a similar indirect impact.

In addition to these regulatory requirements that indirectly lead to pollution reduction efforts, EPA is beginning to incorporate pollution prevention into its regulatory schemes under the Clean Water Act and Clean Air Act, among other statutes. Depending on the way in which EPA does so, the potential exists for specific amounts of pollution reductions to become mandatory and enforceable. RCRA "waste minimization" is an early example of efforts to integrate a form of pollution prevention into the regulatory apparatus. *See generally* Markell, *supra* note 19, §§ 18A.03-18.04. A recent report prepared for EPA reflects the view that before the agency incorporates enforceable pollution prevention

of other "voluntary"-type programs designed to promote pollution prevention have emerged in recent years. Project XL and the Common Sense Initiative are two such programs.[31] Participation by regulated parties in these initiatives is not required; EPA, however, has urged that taking part will pay dividends in the form, *inter alia*, of decreased numbers of inspections. Other non-coercive approaches pursued at the federal and state levels in recent years involve the establishment or strengthening of technical assistance and other programs designed to educate regulated parties about opportunities to reduce their generation of waste, and "reward" programs intended to encourage such reductions by acknowledging and publicizing success stories.[32]

Under the theme of encouraging reductions in the generation of hazardous and/or solid waste, we are left with several points. First, a series of statutes have been enacted over the past decade that have the express purpose of achieving reductions in the generation of solid and/or hazardous waste, or that have accomplishing such reductions as an implicit goal.[33] Second, many of these statutes have taken a relatively "soft" approach. Rather than mandating specific volumes of reductions, these statutes have used approaches such as mandatory reporting (TRI),[34] mandatory planning (Pollution Prevention Act),[35] and similar tools.

EPA and many states, including New York, have also developed a variety of administrative programs intended to promote pollu-

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obligations into permits, "EPA and the states need to develop more experience finding enforceable ways to allow firms to use P2 measures to meet emissions limits and technology-based limits." *See* RESEARCH TRIANGLE INSTITUTE, STATE EXPERIENCE INTEGRATING POLLUTION PREVENTION INTO PERMITS 2 (n.d.) [hereinafter RTI].

[31] For different perspectives on the XL Program, *see* Beth S. Ginsberg & Cynthia E. Cummis, *EPA's Project XL: A Paradigm for Promising Regulatory Reform*, 26 ENVTL. L. REP. 10059 (1996); Rena I. Steinzor, Regulatory Reinvention and Project XL: Does The Emperor Have Any Clothes On?, 26 ENVTL. L. REP. 10527 (1996). Background information on Project XL is available on EPA's homepage at http://WWW.EPA.GOV/ProjectXL. Background information on the common sense initiative is available on EPA's home page at the internet address http://WWW.EPA.GOV/commonsense.

[32] *See generally* Markell, *supra* note 19, at § 18A.04 (discussing examples of government efforts to encourage voluntary reduction of waste).

[33] As indicated in the text, above, the federal Pollution Prevention Act, *supra* note 26, and EPCRA, 42 U.S.C. § 110001-11050 (1994), as well as the State of New York's Hazardous Waste Reduction Act, *supra* note 27, are prominent examples of such laws.

[34] 42 U.S.C. § 11023(a) (1994).

[35] 42 U.S.C. § 11023(b) (1994).

tion prevention and other environmentally beneficial behavior.[36] Again, these programs tend toward the voluntary, rather than the prescriptive, end of the continuum. Authors of one recent report highlight the predominantly voluntary character of pollution prevention activities to date.[37] In discussing the possibility of incorporating pollution prevention conditions into permits, they note that "[t]he prescription of P2 [pollution prevention] conditions in permits is contrary to the premise that often accompanies P2 policy in this country that P2 should be a voluntary effort and every company is the best judge of the most effective P2 choices for its own facility."[38]

It appears clear that EPA will continue to emphasize pollution prevention. EPA itself has indicated that "pollution prevention should be the strategy of choice in all that the Agency does."[39] Questions concerning the future direction of waste reduction programs include whether such programs will continue to emphasize relatively voluntary approaches, or whether government will begin to push more prescriptive approaches to promote waste reduction. In other words, will the "carrot" continue to be emphasized rather than the "stick?"

The answer to this question will likely depend in part on assessments conducted on the efficacy of ongoing efforts. Are the voluntary programs bearing fruit? Is waste reduction proceeding at an acceptably rapid clip? Putting the question in a concrete context, the State of New York has increased recycling from 3 percent in 1987 to 28 percent in 1993, with a state goal of achieving a reduction of 50 percent by 1997.[40] Is the state's performance "good enough" under the existing regulatory framework, or should the framework be changed in an effort to produce better results? To the extent that the question of whether current rates of progress are acceptable is answered in the affirmative, continuation of the

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[36] *See, e.g.*, NEW YORK STATE GOVERNOR'S AWARD FOR POLLUTION PREVENTION (1995) (describing how a corporation may apply and qualify for an award for reducing or eliminating pollution at the source); NEW YORK STATE DEP'T OF ENVTL. CONSERV., *News Release: Six NYS Companies Honored* (1994) (announcing awards for progressive companies).

[37] *See* RTI, *supra* note 30, at 4.

[38] *Id.* at 16.

[39] U.S. ENVTL. PROTECTION AGENCY, EPA 200-B-94-002, THE NEW GENERATION OF ENVIRONMENTAL PROTECTION EPA'S FIVE-YEAR STRATEGIC PLAN 18 (1994).

[40] *See* NEW YORK STATE SOLID WASTE MANAGEMENT BOARD, REPORT TO THE GOVERNOR AND LEGISLATURE: RECOMMENDATIONS TO INCREASE REDUCTION/REUSE/RECYCLING IN NEW YORK STATE 1 (1995).

current generation of pollution prevention strategies seems likely. On the other hand, if research findings indicate that pollution prevention approaches are being "underutilized," they may well produce momentum towards establishing enforceable performance standards or other benchmarks of acceptable performance.

III. Prioritization and Performance Measures

Two of the oft-made criticisms of our environmental regulatory scheme[41] are that 1) we are spending too much money and effort on some problems and too little on others — we are failing to prioritize — and, 2) we need to do a better job of producing environmental improvement with our investment of time and money.[42]

A significant number of states have conducted comparative risk assessments as a method of improving prioritization.[43] Presumably the future direction of these states, in terms of environmental policy, will be shaped, at least in part, by their having undertaken this effort.

New York State has not yet embarked on a full-scale exploration of the world of comparative risk assessment.[44] During the tenure of Thomas Jorling, former Commissioner of the Department of Environmental Conservation, the State essentially dispensed with process and used the TRI data referred to above to develop a list of generators of pollution warranting priority regu-

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[41] *See, e.g.*, Clinton and Gore, *supra* note 14, at S-2 (listing numerous environmental problems which remain); Nat'l Academy of Pub. Admin. Rep. to Congress, *supra* note 14; Ginsberg & Cummis, *supra* note 31, at 10059 (discussing some of the barriers to environmental progress that the current regulatory scheme creates).

[42] *See, e.g.*, U.S. Envtl. Protection Agency, SAB-EC-90-021, Science Advisory Board, Reducing Risk: Setting Priorities and Strategies for Environmental Protection (1990); David L. Markell, *States and Innovators: It's Time for a New Look to Our "Laboratories of Democracy" in the Effort To Improve Our Approach to Environmental Regulation*, 58 Alb. L. Rev. 347, 363 (1994); *see generally* U.S. Envtl. Protection Agency, *supra* note 39, at 11-12.

[43] *See Project News: Projects with Completed Rankings*, 6 Comp. Risk Bull. (Vt. L. Sch. Center Comp. Risk) May/June 1996, at 9 (listing more than twenty completed projects at the state or local level); *but see* Donald T. Hornstein, *Reclaiming Environmental Law: A Normative Critique of Comparative Risk Analysis*, 92 Colum. L. Rev. 562, 584 (1992) (offering a critique of comparative risk and suggesting that "[c]omparative risk analysis . . . may actually undermine environmental law and policymaking rather than deliver the comprehensively rational regime promised by its proponents.").

[44] This was true at the time of the April 1996 Conference. The State DEC is now in the midst of a two-year comparative risk effort. The author is serving as a member of the Steering Committee for the DEC Comparative Risk Project.

latory attention.[45] This list of the "400/95," the 400 facilities in New York responsible for generating 95 percent of the pollution tracked by the TRI program, represented an effort to prioritize among competing needs.[46] DEC developed a comprehensive program designed to ensure that these 400 facilities received a significant amount of regulatory attention commensurate with the substantial volumes of pollution they generated.[47]

The comparative risk movement, and the 400/95 program, embody a desire to focus limited resources on the most significant problems.[48] One consequence of these efforts, in the context of solid and hazardous waste management and remediation, is the heightened degree of attention given to major generators of hazardous waste. DEC's 400/95 program, in combination with the State's 1990 Hazardous Waste Reduction Act,[49] makes it likely that this universe of generators will continue to receive a high level of regulatory attention in the future.[50]

An increased focus on prioritization raises the following issues, among others, with respect to the future regulation of solid and hazardous waste management practices: 1) to what extent will prioritization lead to changes in the size of the regulated party universe and in the number and identity of the wastes regulated; and 2) to what extent will it lead to the proliferation of multiple regulatory approaches, each tailored to specific sub-groups of regulated parties. Concerning the former, particularly at the federal level, a debate is currently raging concerning wastes at the low

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[45] *See* NEW YORK STATE DEP'T OF ENVTL. CONSERV., ORGANIZATION AND DELEGATION MEMORANDUM NO. 92-13: POLLUTION REDUCTION AND INTEGRATED FACILITY MANAGEMENT 1 (Mar. 30, 1992).

[46] *See id.*

[47] *See* Markell, *supra* note 42, at 368. As I pointed out in the Albany Law Review article, in addition to its prioritization among competing needs, the 400/95 effort likely foreshadows the shape of future regulatory efforts through its decision to regulate the priority facilities in a comprehensive, multi-media fashion, rather than by focusing solely on media-specific issues. *Id.* The notion of pursuing multi-media approaches to regulation almost certainly will be (and in my view, should be) an increasingly visible feature of environmental regulation.

[48] *See id.* (discussing former Commissioner Thomas Jorling's directive towards efficiency and improved environmental production).

[49] 1990 N.Y. Laws 831 (codified as amended in scattered sections of N.Y. ENVTL. CONSERV. LAW §§ 27-0900-1701 (McKinney 1984 & Supp. 1997)).

[50] The issue of refocusing RCRA so that it targets "high-risk" wastes is one of the prioritization-oriented changes that President Clinton and Vice President Gore specifically identified in their March 1995 report. *See* Clinton & Gore, *supra* note 14, at 9.

toxicity end of the risk spectrum.[51] While the regulated party universe and the number of substances regulated in all programs has seemed inexorably to expand over the past two decades, this debate frames the question: will the future bring reductions in the number of parties or the amount or number of materials regulated?

One question, in short, is whether "prioritization" will lead to decisions not to regulate certain types of parties or materials now subject to regulatory requirements. A second question is whether this movement will lead to increased use of "graded" or "phased" regulatory approaches. Hazardous waste regulation already embraces a "tailoring" approach to some degree in terms of the obligations it imposes on generators of varying volumes of hazardous waste.[52] There are numerous signs that other efforts to tailor regulatory approaches are under consideration or are being implemented. For example, DEC has revamped its Clean Water Act permitting scheme to focus greater attention on high priority dischargers and less attention on lower priority facilities.[53]

Another significant issue in the context of solid and hazardous waste management and remediation is the impact of the prioritization movement on the allocation of the DEC's and New York's resources to the effort of remediating contaminated sites. The issue of prioritization is also likely to influence the shape of such remediation efforts. With the enactment of the 1986 Environmental Quality Bond Act,[54] the state Superfund program has been relatively flush with funds. The number of program staff devoted to remediating inactive hazardous waste disposal sites has expanded dramatically in recent years.

DEC has reported that Superfund monies will be exhausted within the next couple of years, while the number of sites requiring and awaiting cleanup remains substantial.[55] Industry is

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[51] *See, e.g.*, *Exit Levels For Low-Level Wastes Too Low,, Industry Group Says In Comments On HWIR*, 27 ENV'T REP. 231 (1996).

[52] *See, e.g.*, 40 C.F.R. §§ 261.5, 262.20(e), 262.34(d)-(f), 262.44 (1996) (establishing several categories of generators, including small quantity generators and conditionally exempt small quantity generators, and imposing different regulatory obligations on generators of hazardous waste based on the volume of waste generated.)

[53] *See* Markell, *supra* note 42, at 376-380.

[54] N.Y. ENVTL. CONSERV. LAW § 52-0101 (McKinney Supp. 1997).

[55] *See e.g.*, *Superfund Financing Takes Center Stage in New York Environmental Debate*, INSIDE EPA'S SUPERFUND REP., Mar. 6, 1996, at 18, 19 (stating that current financing will "run out by March 1997," and indicating that 618 sites remain to be remediated).

likely to vigorously contest steps to accumulate the necessary funds through increased taxation.[56] The state's 1996 Clean Water/Clean Air Bond Act does not provide funding for remediation of state Superfund sites.[57] While the debate has not yet begun in earnest, the relative risk that state Superfund sites pose is likely to be an important aspect of the discussion over replenishment of the state's Superfund coffers.[58] The issue of "cleanup standards," with which DEC has been wrestling for years,[59] is likely to be a prominent part of these discussions as well.

In sum, well before the end of the decade (and end of the century), exhaustion of the state Superfund will put New York at a critical juncture in terms of one of its most prominent programs, the inactive hazardous waste disposal site program. Issues relating to risk prioritization are likely to be central to the debate over the future existence and scope of this program. The future shape of the state's environmental bureaucracy may well be significantly affected by the outcome of this debate.

A concept related to prioritization is the notion of developing a set of "indicators" that can serve as a basis for evaluating environmental conditions and measuring the impact of regulatory and other approaches.[60] While this effort is in its relative infancy, an enormous amount of energy is being expended at the federal level to develop such indicators, which can then be used as a framework for assessing performance.[61] Some of this work is being driven by the panoply of environmental statutes. In 1993, Congress enacted the Government Performance and Results Act of 1993, in which it

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[56] *Id.* (reporting that "[i]ndustry groups . . . dismiss any additional industry-based fees as economically detrimental.").

[57] *See* N.Y. ENVTL. CONSERV. LAW § 56-0505(2) (McKinney Supp. 1997).

[58] *See, e.g.*, James T. Hamilton & W. Kip Viscusi, *Human Health Risk Assessments for Superfund*, 21 ECOLOGY L.Q. 573 (1994).

[59] DEC is not alone in this regard. For a discussion of the issue of cleanup standards at the federal level, *see* John Pendergrass, *Use of Institutional Controls as Part of a Superfund Remedy: Lessons From Other Programs*, 26 ENVTL. L. REP. 10109 (1996).

[60] *See generally* HAMMOND ET AL., ENVIRONMENTAL INDICATORS: A SYSTEMATIC APPROACH TO MEASURING AND REPORTING ON THE ENVIRONMENTAL POLICY PERFORMANCE IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT (1995).

[61] *See, e.g.*, Performance Partnership Grants for State and Tribal Environmental Programs: Revised Interim Guidance, 61 Fed. Reg. 42887, 42891 (1996); OFFICE OF WATER, U.S. ENVTL. PROTECTION AGENCY, ENVIRONMENTAL INDICATORS OF WATER QUALITY IN THE UNITED STATES (1996). In his introduction to this report, the EPA Assistant Administrator for the Office of Water noted the report was the result of an "extensive collaborative effort over the past several years . . . ."

announced its objective of moving agencies in the direction of conducting comprehensive strategic planning and performance measurement.[62] Section 2(a)(2) of the Congressional Findings of the Act is an example of the many provisions in this legislation that highlight a need to focus on such activities. It provides that "[f]ederal managers are seriously disadvantaged in their efforts to improve program efficiency and effectiveness, because of insufficient articulation of program goals and inadequate information on program performance. . . ."[63]

It is likely that this attempt at the federal level to promote strategic planning and development of environmental indicators and measures of performance in order to redirect agency activities will impact state approaches in the environmental regulatory area. Further, at some point the State may embark on a related effort to establish its own environmental goals, benchmarks, or indicators, and then redirect its energies towards meeting them.[64] Almost inevitably, such an effort will have a significant impact on the state's environmental priorities and its approaches and policies in the solid and hazardous waste arena.

IV. The Impact of "Non-Environmental" Issues on Environmental Policy and the Use of a Broader Array of Approaches to Achieve Environmental Goals

The "brownfields"[65] question that has received substantial attention in recent years is a good example of the impact of non-environmental concerns on environmental policy. The question no longer appears to be whether it is appropriate as a matter of public policy to encourage redevelopment of industrial properties ("brownfields") rather than development of pristine areas ("greenfields") for commercial or industrial use. Instead, the debate has

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[62] 31 U.S.C. §§ 1101-1119 (1994). Government Performance and Results Act of 1993, Pub. L. No. 103-62, 107 Stat. 285 (codified as amended in scattered sections of 31 U.S.C. and 39 U.S.C.).

[63] *Id.* § 2, 107 Stat. at 285.

[64] Since the April 1996 Conference, the state DEC has embarked upon an effort to establish such indicators. The department has compiled a set of compliance indicators. Author's Meeting Notes, DEC's Environmental Enforcement Advisory Committee Meeting, March 1997. (The author serves on this DEC Advisory Committee.)

[65] *See* The United States Conference of Mayors, Impacts of Brownfields on U.S. Cities: A 39-City Survey 1-2 (1996) (defining a "brownfield" as a contaminated industrial or commercial site, often contaminated over a period of years and then abandoned).

turned to the implementation question of developing strategies that will produce this set of outcomes.

The brownfields question is likely to claim a great deal of attention over the next several years. A recent news report indicated that President Clinton has characterized "brownfields" redevelopment as "'the most important thing' he is working on with the nation's mayors."[66] Promoting brownfields redevelopment is one of the few areas of debate over Superfund reauthorization where some level of consensus seems to have emerged in Washington, D.C.[67] The talk in Albany from state officials is also about a heightened emphasis on such redevelopment.[68] Among other reasons for its prominence, the scope of the brownfields concern appears to be quite substantial. A January 1996 study from the United States Conference of Mayors found that the 39 cities that reported the presence of brownfields in their communities "identified more than 20,000 such properties or sites of multiple properties."[69] The report continues: "[w]hile these results do not allow for projections of total brownfields in the nation, the high counts of sites in this small sample of cities indicate the problem is a significant one."[70]

The movement to give heightened attention to the brownfields issue did not emerge solely out of concern over environmental conditions. Instead, this movement stemmed from an interest in addressing a host of public policy issues, including promoting employment opportunities and increasing the tax base, especially, but not exclusively, in urban areas.[71] Local governments' interest

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[66] *Clinton Outlines Major Environmental Initiatives in Stump Speech*, INSIDE EPA'S ENVTL. POL'Y ALERT, Sept. 11, 1996, at 35.

[67] *See, i.e., House Close To Agreement on Brownfields; Disagreement Lingers on Liability Question*, 27 ENV'T REP. 388 (1996).

[68] *See, e.g., Prepared Statement of Gary L. Spielman, Executive Deputy Commissioner, New York State Department of Environmental Conservation Before the House Transportation and Infrastructure Water Resources and Environment Subcommittee*, Federal News Service, November 2, 1995 (testifying that "NYSDEC strongly supports amending CERCLA to authorize a federal voluntary cleanup/brownfields program that would complement, rather than duplicate or encumber, state efforts.").

[69] THE UNITED STATES CONFERENCE OF MAYORS, *supra* note 65, at 1 (discussing the key findings that were discovered by the survey and the effects of the brownfield sites on those communities).

[70] *Id.*

[71] *See, e.g.*, Letter from Norman Rice, Mayor of Seattle, and Freeman R. Basley Jr., Mayor of St. Louis, to President Clinton (Dec. 21, 1995), in THE UNITED STATES CONFERENCE OF MAYORS, *supra* note 65, at Appendix (addressing the policy reasons for reclaiming brownfields).

in creating a legal framework that facilitates expeditious cleanups, for instance, is likely to be enhanced by decisions such as one recently issued by the Minnesota Supreme Court in *Westling v. County of Mille Lacs*.[72] In that case, the Minnesota court held that a contaminated 13-acre industrial parcel had a market value of $0 for property tax valuation purposes. This was so even though the property's value would be in excess of $1 million if it were not contaminated.[73]

Perceptions concerning the non-environmental impacts associated with the remediation of contaminated waste sites are likely to shape the strategies used to accomplish the environmental objective of remediating these sites. In the context of the brownfields issue, for example, the perception that allowing industrial properties to lie fallow contributes to a wide variety of societal ills has led some to consider fundamental changes to the two major features of Superfund, notably its liability scheme and its approach to cleanup standards.[74] A focus solely on the environmental issues posed by such sites would be less likely to trigger consideration of such fundamental changes.

Strategies being considered to address the brownfields issue range far and wide. They are by no means limited to traditional environmental approaches. One much-discussed idea involves use of the tax code to promote redevelopment of abandoned or underutilized industrial sites.[75] Facilitating cleanups of these properties by allowing parties to "privatize" the oversight function, at least in part, is another theme that has gained some measure of popularity. Another strategy urged by the United States Conference of Mayors includes having the government provide financial support to help fund cleanup activities.[76] Economic

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[72] 543 N.W.2d 91 (Minn. 1996).

[73] *Id.* at 93; *see also* Lorraine Lewandrowski, *Toxic Blackacre: Appraisal Techniques & Current Trends in Valuation*, 5 ALB. L.J. SCI. & TECH. 55, 64 (1994) (discussing the difficulties of valuing contaminated properties using classic valuation techniques); Commerce Holding Corp. v. Board of Assessors, 88 N.Y.2d 724 (1996) (holding that environmental contamination must be evaluated when real property is assessed for property taxes).

[74] *See, e.g.*, Letter from Norman Rice, *supra* note 71.

[75] *See President to Unveil Details of Brownfields Tax Incentive in March*, INSIDE EPA'S ENVTL. POL'Y ALERT, Feb. 28, 1996, at 12 (discussing proposed tax incentives for the cleanup of brownfields).

[76] *See* Statement of Mayor Freeman R. Bosley, Jr. on Brownfields Redevelopment, Before the Subcommittee on Commerce, Trade & Hazardous Materials (March 16, 1995) *in* THE U. S. CONFERENCE OF MAYORS, *supra* note 65, at Appendix. Of course, with the construction grants program and now the loan

development and housing agencies, as well as other federal and state agencies, have become involved in this remediation enterprise. While innovative strategies are being explored to address a host of environmental issues, the confluence of environmental and non-environmental concerns associated with brownfields properties accounts for at least some of the creativity in approach spawned by the desire to deal with such sites.

In sum, while I may be overstating the point, a trend to increasingly consider environmental issues in tandem with other concerns may have significant consequences for the future content of environmental policy. The brownfields issue is a case in point where non-environmental concerns (expanding employment opportunities, restoring rundown buildings, maintaining or enhancing the tax base, promoting economic development and the like) have substantially influenced the shape of hazardous waste cleanup laws and policies.

V. Federal/State/Local Relations

Traditionally, New York, like most states, has enjoyed enormous autonomy in regulating solid waste.[77] While EPA has delegated authority to the state to administer the RCRA hazardous waste management program,[78] state autonomy in this area has been far more limited than has been the case in the solid waste arena.[79]

In the remediation context, DEC (and the State generally) has administered New York's inactive hazardous waste disposal site program with relatively little interference from EPA. The important exception to this statement, of course, relates to sites in New York that are also on the federal National Priorities List (NPL).[80] EPA has played a much more active role with respect to these sites.

While the ultimate shape and fate of the federal Superfund program remains uncertain, it appears likely that any amendments to the federal Superfund law will shift authority to the states to a

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program under the Clean Water Act, there is a long history of federal government financial support for environmental infrastructure needs.

[77] *See generally*, Blumm, *supra* note 10, at 391 and accompanying text.

[78] *See* N.Y. Envtl. Conserv. Law § 27-0900 cmt. (McKinney 1984).

[79] *See supra* note 10 and accompanying text.

[80] *See* 40 C.F.R. § 300.425(b) (1996) (defining the NPL as a list of priority sites for long-term remedial evaluation and response); *see generally* 42 U.S.C. § 9605 (1994) (obligating EPA to establish a list of priority sites).

degree beyond that provided under the current law.[81] A draft EPA guidance embodies EPA's intention to limit its role with respect to contaminated waste sites, thereby transferring responsibility to the states, even absent statutory reauthorization.[82]

In a widely cited report, the National Academy of Public Administration recommends the creation of a new type of federal/state partnership that would afford states greatly enhanced flexibility to allocate resources to priority matters and reduce the level of federal oversight.[83] It suggests that "the EPA and Congress need to hand more responsibility and decision-making authority over to the states . . .[; that] a new partnership needs to be formed, one based on 'accountable devolution' of national programs and on a reduction in EPA oversight when it is not needed."[84]

Over the past year, numerous states, including New York, have entered into partnership agreements with EPA that are intended to recast the federal/state relationship.[85] This restructuring will potentially create an unparalleled opportunity for New Yorkers to establish their own priorities in the environmental arena and then allocate resources accordingly. It would be unfortunate if the State did not take full advantage of the potential for enhanced flexibility and autonomy. It will be incumbent upon concerned New Yorkers to participate meaningfully in the process to ensure that the opportunity is not squandered.[86]

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[81] For a discussion of the federal/state relationship in the Superfund arena, *see* David L. Markell, *"Reinventing Government": A Conceptual Framework for Evaluating the Proposed Superfund Reform Act of 1994's Approach to Intergovernmental Relations*, 24 ENVTL. L. 1055, 1064 (1994); *see also* Markell, *supra* note 16, at 37.

[82] *See Upcoming EPA Guidance Hands States Greater Control Over Waste Cleanups,* INSIDE EPA'S ENVTL. POL'Y ALERT, Feb. 28, 1996, at 8. News articles published after the conference suggest EPA's views remain in flux. *See Draft Voluntary Cleanup Guidance Limited EPA Action To 'Exceptional' Cases,* INSIDE EPA'S SUPERFUND REPORT, Jan. 8, 1997, at 3. In a different context, EPA has evinced an intent to phase out the federal underground storage tank (UST) program. *See generally States Concerned With EPA Plan to Withdraw From Tank Program*, INSIDE EPA'S ENVTL. POL'Y ALERT, Feb. 28, 1996, at 5.

[83] *See* NAT'L ACADEMY OF PUB. ADMIN., *supra* note 14, at 2.

[84] *Id.*

[85] *See* NEW YORK STATE DEP'T OF ENVTL. CONSERV. & REGION 2, U.S. ENVTL. PROTECTION AGENCY, NEW YORK STATE PERFORMANCE PARTNERSHIP AGREEMENT - STATE FISCAL YEAR 1996/97 (August 1996); *Ruckelhaus To Head Initiative On New Statutory Mission For Agency*, 26 ENV'T REP. 2093, 2094 (1996) (reporting that EPA signed agreements with Delaware, Illinois, Colorado, Utah, and New Jersey). The new system is formally known as the National Environmental Performance Partnership System (NEPPS). *Id.*

[86] Depending on how it is structured, a pattern of devolution may require significant adjustments by state agencies. Perhaps of greatest significance will

Another dimension of the federal/state/local relationship involves the role of local governments in environmental regulation. Local governments' roles, especially with respect to solid waste, are currently in transition. Traditionally, local governments provided many solid waste management services, including operating landfills.[87] Over the past decade, the State has become increasingly active in setting management standards for the handling and disposal of solid waste. Further, particularly with the enactment of solid waste legislation in 1988, the State began to take a more active role in promoting planning to address solid waste needs.[88] One report concludes that this 1988 legislation "changed the historical relationship between state and local government on the solid waste front."[89] In particular,

> "[w]hile it left responsibility for the planning and operation of solid waste management facilities to local governments, it established a state solid waste management policy dictating to localities a hierarchy of preferred waste management alternatives . . . . It also mandated that local governments develop their own solid waste management plans, compatible with statewide goals . . . ."[90]

Through a variety of financial mechanisms, including the 1986 Environmental Quality Bond Act,[91] the Environmental Protection Fund,[92] and the Clean Water/Clean Air Bond Act of 1996,[93] among others, the State has also positioned itself as a benefactor of local government solid waste officials. In this capacity, too, it has the ability to influence the direction of local government solid waste policy.

Uncertainties concerning issues such as flow control and the possibility of limits on the interstate shipment of waste make it difficult to anticipate the future of solid waste management or the direction the state/local relationship will take in this arena. The ability of publicly-funded solid waste facilities (waste-to-energy

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be the need to find new funding sources for state employees whose salaries are being paid in whole or in part through federal funding.

[87] See generally NEW YORK STATE ASSEMBLY, LEGISLATIVE COMMISSION ON SOLID WASTE MANAGEMENT, WHERE WILL THE GARBAGE GO? 1996 (1996) (introductory letter discussing the trend toward private sector activity "despite the historical role that municipalities have played in solid waste management.").

[88] *See, e.g.*, N.Y. ENVTL. CONSERV. LAW §§ 27-0101-0109, 27-0701-0719 (McKinney 1984 & Supp. 1997) (authorizing the state to adopt local solid waste management plans).

[89] *See* ROCKEFELLER REPORT, *supra* note 13, at 72.

[90] *Id.*

[91] N.Y. ENVTL. CONSERV. L. § 52-0101 (McKinney Supp. 1997).

[92] N.Y. ENVTL. CONSERV. L. § 54-0101 (McKinney Supp. 1997).

[93] N.Y. ENVTL. CONSERV. LAW § 56-0101-0113 (McKinney Supp. 1997).

facilities, landfills and the like) to compete in the marketplace is likely to be an important variable in the evolution of this relationship. Some communities in New York have substantial sums invested in such operations. Similarly, the extent to which the different components of the solid waste management operation (collection, hauling, etc.) are privatized is likely to have a significant effect on the roles played by local governments and the state.

CONCLUSION

Twenty-five years ago, no one could have predicted the emergence of an extraordinarily prescriptive management scheme to govern the handling of hazardous waste (RCRA) or the creation of a remediation statute (CERCLA) that has probably been the most visible part of the environmental statutory edifice since Superfund's enactment in 1980. This legacy suggests the "crystal ball" quality of any predictions about where the future will take us in terms of environmental policies for solid and hazardous waste management and remediation.

To offer my own "wish list," it seems plausible to hope that, as a society, we will develop an improved understanding of "where we are" in terms of environmental quality, and that this will help to produce a consensus on the issue of goals or objectives. At a minimum, ongoing efforts involving environmental indicators, performance measures, and the like will be used to foster a more inclusive and systematic debate over this difficult set of questions.

We also will make progress in determining how best to "mix and match" various regulatory and non-regulatory strategies to produce desired outcomes. Experiments with a wide variety of approaches are currently ongoing at the federal, state and local levels. At this stage in the twenty-five year history of environmental regulation, it seems clear that a heightened focus on pollution prevention offers great hope for producing significant environmental improvement at a far lower cost than would be involved in achieving a similar level of protection using conventional regulatory approaches. Increased use of market-based strategies, expanded roles for independent third-party auditors, and more complete and widespread dissemination of information to the public also hold considerable promise. Lessons learned from experiments with these strategies and a broad array of other regulatory and non-regulatory tools are likely to transform our approach to environmental regulation. The Office of Technology

Assessment (OTA) issued a report in 1995 that offers a "tool box" of possible regulatory strategies.[94]

It also seems clear that, at least in the near term, we will experience a devolution of authority to the state and local governments. Shifting authority in this way expands opportunities for innovation and creativity. If handled properly, this devolution is likely to expedite introduction and refinement of creative approaches to regulation.[95]

Restructuring the relationship among federal, state and local governments, however, also poses significant risks in terms of the future effectiveness of environmental regulatory approaches.[96] Shifting authority challenges the state and local governments to produce. How they perform will be critical in terms of whether future environmental strategies succeed or fail. Those interested in helping to maximize the prospects that this realignment will succeed will need to keep in mind two realities. First, developing mechanisms that facilitate appropriate relationships among the various levels of government will be an essential, if unglamorous, task in the years ahead. Further, to close the loop, it will be essential for states to strengthen their capacity to set coherent goals, develop strategies reasonably likely to help achieve those goals, and monitor performance in terms of environmental results. Meeting these infrastructure needs must be a priority if the devolution-created opportunities for "grassroots"-driven change to our environmental regulatory approaches are to bear maximum fruit, rather than lead to a "re-federalization" of environmental law that will inevitably result from state and local governments' squandering their chance to lead.

In short, over the next several years, New York State is likely to have an unparalleled opportunity to shape its environmental agenda and develop strategies for achieving its goals. The challenge is great and the stakes are high.

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[94] OFFICE OF TECHNOLOGY ASSESSMENT, CONGRESS OF THE UNITED STATES, ENVIRONMENTAL POLICY TOOLS: A USER'S GUIDE (1995).

[95] JAMES M. MCELFISH, JR. & JOHN PENDERGRASS, REAUTHORIZING SUPERFUND: LESSONS FROM THE STATES, ENVTL. L. INST. RESEARCH BRIEF NO. 2, 4 (1993). For a recent discussion of some of the perils of devolution, *see* Dan Esty, *Revitalizing Environmental Federalism*, 95 MICHIGAN L. REV. 570 (1996).

[96] *See, e.g.*, James P. Lester & Emmett N. Lombard, *The Comparative Analysis of State Environmental Policy*, 30 NAT. RESOURCES J. 301 (Spring 1990); William R. Lowry, THE DIMENSIONS OF FEDERALISM: STATE GOVERNMENTS AND POLLUTION CONTROL (1992).